

Remarks

Applicant's representatives thank the Examiner for the opportunity to meet on July 22, 2008, to discuss the outstanding issues in the case. Applicant's representatives and the Examiner discussed the issues regarding obviousness of the claims over the prior art, in particular with respect to the dipping time. Applicant's representatives pointed out that the prior art does not disclose the claimed range. Further, the parties discussed the rejection of claim 74 under §112.

Pursuant to the interview and the Office Action of March 28, 2008, Applicant requests reconsideration of this Application based on the above supplemental amendments and the following supplemental remarks.

Currently, claims 1, 6-16, 46, 49, 55-59, 61, 64-73, and 78-88 are pending, with claims 1, 46, 61 and 73 being the independent claims. Claim 74 has been cancelled. Support for this amendment is found in the specification and in previously submitted claims.

Claim 74 is rejected under 35 U.S.C. §112, ¶1, as failing to comply with the written description requirement. Claims 1, 6-8, 10-14, 15, 16, 46, 49, 55-59, 61, 64-66, 68, 69, 70-73, and 78-88 are rejected under 35 U.S.C. § 103(a) as obvious over GB 164 (Great Britain 1,010,164). Claims 9 and 67 are rejected under 35 U.S.C. § 103(a) as obvious over GB 164 in view of Duke (US 3,573,072). Claim 74 is rejected U.S.C. § 103(a) as obvious over GB 164 in view of GB 747 (Great Britain 1,346,747).

First, with respect to claims 16 and 69, Applicants believes that the rejection under §102 with respect to these claims [*Office Action of 3/28/08, page 6*] is in error and will be withdrawn in view of the withdrawal of the anticipatory rejection of claims 1 and 61 in the Office Action of March 28, 2008.

Second, claim 74 has been cancelled without prejudice, thus rendering moot the rejections pending with respect to that claim.

Third, Applicant respectfully traverses the obviousness rejection of claims 1, 6-8, 10-14, 15, 16, 46, 49, 55-59, 61, 64-66, 68, 69, 70-73, and 78-88, as well as the rejections of claims 9 and 67. Of these

claims, claims 1, 46, 61, and 73 are independent. Each of claims 1, 46, 61, and 73 recites that the formed glass article is dipped in a molten salt bath "for 10 seconds or less." As such, all of the pending claims now include this feature. As more fully discussed in the personal interview of July 22, 2008, this feature is neither disclosed or suggested by the prior art. The lowest dipping duration disclosed by the prior art is 15 seconds. [See also Examiner's comments in the Final Office Action dated July 6, 2007: bottom of page ; Applicant's Response of April 11, 2007: pages 7-8; Applicant's Response of October 2, 2007: paragraph bridging pages 7 and 8; and Applicant's arguments in the Pre-Appeal Brief Request.] A fair reading of the prior art as whole clearly reveals that this value does not in any way disclose or suggest the range of 10 seconds or less. As a matter of fact, it even teaches away from the claimed range as the prior art range has a lower limit which is 50% larger than the maximum of the claimed range. Thus, the prior art does not disclose or suggest the range of 10 seconds or less and thus cannot render it obvious.

In particular, the rejection states, "said immersion period would have represented a merely trivial extension over the process explicitly set forth in the prior art," and "both the prior art and the claimed invention make sure of immersion periods which one of ordinary skill would recognize first as significantly shorter than the 'typical' process parameter." [Office Action of March 28, 2008, at p. 4.] Applicant notes that even according to the GB 164 reference, the dipping time must be sufficiently long to affect the appropriate strengthening, "[a]t lower temperatures the effect of such contact is so slow that production of glass articles herein contemplated cannot be achieved within periods of time which are commercially practicable." [GB 164 p. 3: lines 11-15.] The GB 164 reference also explains:

Contacting the glass with the potassium treating salt for times substantially less than 5 minutes can be satisfactorily conducted provided that sufficiently high temperatures are employed to secure the necessary potassium exchange in the surface region of the glass article being treated. . .

That is to say that in order to secure the utmost benefits of the strength characteristics which can be imparted to glass articles according to the present invention, it is necessary to conduct the potassium exchange so that there is a depth penetration of potassium for at least a finite thickness towards the mid-plane of the glass article. Thus, the increase in strength is sufficiently deep on a penetration level so that subsequent abrasive treatment . . . will not cause substantial loss of strength characteristic . . .

Another factor to be considered when lower contact times, viz., contact treating times substantially below 5 minutes, are employed is the effect the higher treating temperatures can have upon viscosity characteristics of the glass article being treated.

[GB 164 p. 3: lines 91-129.]

Thus, GB 164 reference clearly establishes that selection of the dipping time has criticality to the extent that the temperature of the bath, other operating parameters, and the article properties will all be significantly affected. The reference clearly sets forth that for dipping times of substantially less than 5 minutes, selection of the dipping time critically depends on the bath temperature and the properties of the article such as viscosity. Even on page 4 of the reference, lines 35-65 explicitly set forth methods to affect proper treatment for very low dipping times, the lowest of which is identified as the 15-60 second range. [GB 164 p. 4: line 53.] To this end, all of the examples disclosed in this reference teach dipping times of much higher than the presently claimed range. In fact, even in the case of example 4 which teaches the lowest dipping time of 15 seconds, one group is dipped at 15 seconds and the subsequent groups are dipped for longer periods up to 60 seconds, again confirming that GB 164 contemplates the shortest dipping times to be in the range of 15-60 seconds. As such, without impermissible hindsight, there is no disclosure or suggestion of a range of 10 seconds or less. These teachings combined with the GB 164 general caution regarding use of high temperatures [see the excerpts from page 3 above] required by reduced dipping times, only teaches away from the claimed range of 10 seconds or less. For these reasons, Applicant believes that the claimed range is a distinct and unobvious operating range which is not fairly disclosed or suggested by the prior art--and is in no way a merely trivial extension over a disclosed process.

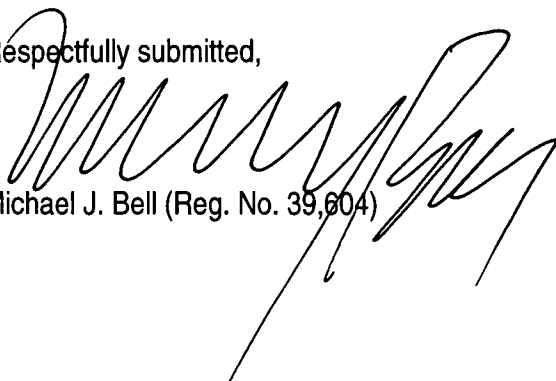
For at least the reasons above, it is respectfully requested that the Examiner withdraw the pending rejections and pass the application to issue.

Conclusion

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants believe that a full and complete response has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Reply is respectfully requested.

Respectfully submitted,


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